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EXAMINER	
MEINDICKE DIAZ, SUSANNA M	

ART UNIT	PAPER NUMBER
3692	

NOTIFICATION DATE	DELIVERY MODE
12/04/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/037,563	PRUITT, RONALD EARL	
	Examiner	Art Unit	
	Susanna M. Diaz	3692	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) *14-18,20-24 and 29-33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13,19,25-28 and 34-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 11, 2008 has been entered.

Claims 1, 5-10, 19, 25, 26, 35, 36, and 38 have been amended.

Claims 1-13, 19, 25-28, and 34-40 are presented for examination. (Non-elected claims 14-18, 20-24, and 29-33 stand as withdrawn.)

Response to Arguments

2. Applicant's arguments with respect to claims 1-13, 19, 25-28, and 34-40 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-13, 19, 25, and 36-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 8 recite details of a "portfolio optimizer." It is not clear what the metes and bounds of the "portfolio optimizer" are. Is it limited to software, hardware, or software executed by hardware? Applicant is reminded that apparatus claims are defined by structural elements and their corresponding functionality. The dependent claims (claims 2-7, 9-13, 19, 25, and 36-38) fail to remedy the questions regarding scope of the "portfolio optimizer"; therefore, the same rejections apply. It is also noted that dependent claims 6 and 7 specify that the portfolio optimizer includes means for modeling a tax code. Since an interpretation of the "means for modeling a tax code" under 35 U.S.C. 112, 6th paragraph would suggest that these means are a computer programmed with software for modeling a tax code (in light of Applicant's specification), it is implied that the portfolio optimizer also comprises at least a computer programmed with software. However, a broad, yet reasonable interpretation of an "optimizer" could merely require software, thereby adding to the confusion of the true metes and bounds of the recited portfolio optimizer. Also noted is that, while the portfolio optimizer is currently recited as "operating as software on a hardware platform," the portfolio optimizer is not tied into any structure that is recited within the scope of the apparatus itself. The hardware platform is not explicitly recited as a structural element of the apparatus. Furthermore, a hardware platform could be interpreted as the operating system software; therefore, the structural metes and bounds implied within the scope of a hardware platform are unclear as well.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 26-28, 34, 35, 39, and 40 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

A claimed process is eligible for patent protection under 35 U.S.C. § 101 if:

> "(1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing. See Benson, 409 U.S. at 70 ('Transformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process claim that does not include particular machines.'); Diehr, 450 U.S. at 192 (holding that use of mathematical formula in process 'transforming or reducing an article to a different state or thing' constitutes patent-eligible subject matter); see also Flook, 437 U.S. at 589 n.9 ('An argument can be made [that the Supreme] Court has only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a 'different state or thing' '); Cochrane v. Deener, 94 U.S. 780, 788 (1876) ('A process is...an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing.').[7] A claimed process involving a fundamental principle that uses a particular machine or apparatus would not pre-empt uses of the principle that do not also use the specified machine or apparatus in the manner claimed. And a claimed process that transforms a particular article to a specified different state or thing by applying a fundamental principle would not pre-empt the use of the principle to transform any other article, to transform the same article but in a manner not covered by the claim, or to do anything other than transform the specified article." (*In re Bilski, 88 USPQ2d 1385, 1391 (Fed. Cir. 2008))*

Claims 26-28, 34, 35, 39, and 40 are not tied to a particular machine or apparatus nor do they transform a particular article into a different state or thing; therefore, claims 26-28, 34, 35, 39, and 40 are non-statutory under § 101.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-4, 6-8, 11-13, 26, 27, and 35-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergmann et al. (US 2002/0143682) in view of Peterson et al. (U.S. Patent No. 7,016,873).

Bergmann discloses an apparatus allowing for tax-optimized, managed investment portfolios, comprising:

[Claim 1] an investor account database storing account data for a plurality of financial portfolios wherein the assets of each financial portfolio are allocated to least one investment style (¶¶ 33-35 – Each separate account is effectively one of multiple mini-portfolios. The accounts may be aggregated to form the overall portfolio);

a data pre-processor for receiving (i) historical transactions associated with each financial portfolio (¶ 10 – Each asset class may be characterized, at least in part, based on historical data associated with the respective assets), and (ii) proposed transactions comprising possible adjustments to a plurality of positions held in each financial portfolio

based on the at least one investment style (¶¶ 2, 4, 53 – There are various portfolios that the investor may ultimately select from. Each portfolio reflects a different combination of positions held in the financial portfolios. The various potential adjustments are discussed throughout ¶¶ 9-102. By selecting a preferred portfolio, the investor accepts a particular combination of characteristics of the overall portfolio. Each mini-portfolio would represent a unique mix of assets to be held in a portfolio; therefore, getting from one mini-portfolio to another would effectively imply the execution of proposed transactions);

[Claim 2] wherein the investment style represents a model portfolio (¶¶ 11-29, 44-49);

[Claim 3] wherein the investment style allows for creation of a model portfolio (¶¶ 11-29, 44-49);

[Claim 4] wherein the model portfolio data comprises a plurality of securities and their respective weights (¶¶ 11-29, 44-49);

[Claim 6] wherein the portfolio optimizer is further configured to model a tax code applicable to the client associated with each financial portfolio (¶ 34 – It is presumed that the 401k, regular IRA, Keogh, and Roth IRA investments are treated as dictated by the respective tax code);

[Claim 7] wherein the portfolio optimizer is further configured to provide incremental tax costs resulting from the proposed transactions (¶¶ 38-43);

[Claim 36] wherein the portfolio optimizer is further configured to optimize allocations of trades within each financial portfolio by constructing and solving a mathematical

representation of an objective function bound by constraints, wherein the constraints represent the account data associated with each investment portfolio (¶¶ 4, 47-51); [Claim 37] wherein the portfolio optimizer is further configured to modify the proposed transactions based on the optimized allocations (¶¶ 2, 4, 53 – There are various portfolios that the investor may ultimately select from. Each portfolio reflects a different combination of positions held in the financial portfolios. The various potential adjustments are discussed throughout ¶¶ 9-102. By selecting a preferred portfolio, the investor accepts a particular combination of characteristics of the overall portfolio).

Regarding claim 1, Bergmann discloses a portfolio optimizer operating as software on a hardware platform and configured to optimize after-tax returns for each financial portfolio, factoring in risk, return, and capital gains with execution of each of the plurality of possible adjustments and the historical transactions associated with each financial portfolio (¶ 10 – Each asset class may be characterized, at least in part, based on historical data associated with the respective assets; ¶¶ 2, 4, 53 – There are various portfolios that the investor may ultimately select from. Each portfolio reflects a different combination of positions held in the financial portfolios. The various potential adjustments are discussed throughout ¶¶ 9-102; Abstract, ¶¶ 4, 51 -- Risk is taken into account; Abstract, ¶¶ 4, 7, 11, 16, 19, 22-25 – Return is taken into account; Abstract, ¶ 56 – Capital gains are taken into account); however, Bergmann does not explicitly teach that the capital gains are assessed in terms of short term capital gains, short term capital losses, long term capital gains and long term capital losses. However, Peterson

discloses a tax sensitive portfolio optimization strategy that accounts for capital gains and the tax laws governing the long-term and short-term capital gains rate (Peterson: col. 14, lines 20-34). In Peterson, "the tax effect associated with capital gains or losses on security is considered only in the case where securities are sold in a taxable account" and an objective function is used to assess this tax effect (Peterson: col. 24, lines 55-63). Peterson's optimization is performed for assessing taxable and non-taxable effects on a portfolio (Peterson: abstract; col. 25, lines 1-44) in order to maximize after-tax portfolio returns for an acceptable risk tolerance (Peterson: col. 2, lines 1-10). The non-linear objective function facilitates manageable analysis of a greater number of constraints within a flexible model (Peterson: col. 25, lines 4-8, 25-35). Peterson's optimization presents a common approach to the type of tax-related, multi-constraint portfolio optimization discussed in Bergmann (which also utilizes objective functions); therefore, the Examiner submits that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify Bergmann to specifically analyze short term capital gains, short term capital losses, long term capital gains and long term capital losses in order to facilitate manageable analysis of a greater number of constraints within a flexible model while yielding a more comprehensive understanding of the tax consequences associated with capital gains.

Bergmann discloses an apparatus allowing for tax-optimized, managed investment portfolios, the apparatus comprising:

[Claim 8] an investor account database storing account data for a plurality of financial portfolios wherein the assets of each financial portfolio are allocated between at least two asset classes and wherein each asset class has associated therewith at least one investment style, each investment style representing a model portfolio (¶¶ 33-35 – Each separate account is effectively one of multiple mini-portfolios. The accounts may be aggregated to form the overall portfolio);

a data pre-processor for receiving (i) historical transactions associated with each financial portfolio (¶ 10 – Each asset class may be characterized, at least in part, based on historical data associated with the respective assets), and (ii) proposed transactions comprising possible adjustments to a plurality of positions held in each financial portfolio generated to mirror the model portfolios (¶¶ 2, 4, 53 – There are various portfolios that the investor may ultimately select from. Each portfolio reflects a different combination of positions held in the financial portfolios. The various potential adjustments are discussed throughout ¶¶ 9-102. By selecting a preferred portfolio, the investor accepts a particular combination of characteristics of the overall portfolio. Each mini-portfolio would represent a unique mix of assets to be held in a portfolio; therefore, getting from one mini-portfolio to another would effectively imply the execution of proposed transactions);

[Claim 11] wherein the model portfolio data comprises a plurality of securities and their respective weights (¶¶ 11-29, 44-49);

[Claim 12] wherein the investor account database further stores portfolio optimization settings in association with corresponding financial portfolios, and wherein the portfolio

optimizer further considers the portfolio optimization settings when optimizing the financial portfolio (¶¶ 2, 4, 53 – There are various portfolios that the investor may ultimately select from. Each portfolio reflects a different combination of positions held in the financial portfolios. The various potential adjustments are discussed throughout ¶¶ 9-102. By selecting a preferred portfolio, the investor accepts a particular combination of characteristics of the overall portfolio);

[Claim 13] wherein the investor account database further stores client preference data in association with corresponding financial portfolio, and wherein the portfolio optimizer further considers the client preference data when optimizing the financial portfolio (¶¶ 2, 4, 53 – There are various portfolios that the investor may ultimately select from. Each portfolio reflects a different combination of positions held in the financial portfolios. The various potential adjustments are discussed throughout ¶¶ 9-102. By selecting a preferred portfolio, the investor accepts a particular combination of characteristics of the overall portfolio);

[Claim 37] wherein the portfolio optimizer is further configured to optimize allocations of trades within each financial portfolio by constructing and solving a mathematical representation of an objective function bound by constraints, wherein the constraints represent account data associated with each investment portfolio (¶¶ 4, 47-51).

Regarding claim 8, Bergmann discloses a portfolio optimizer operating as software on a hardware platform and configured to optimize a financial portfolio across the at least two asset classes for after-tax returns for each financial portfolio, factoring in

risk, return, and capital gains with execution of each of the plurality of possible adjustments and the historical transactions associated with each financial portfolio (¶ 10 – Each asset class may be characterized, at least in part, based on historical data associated with the respective assets; ¶¶ 2, 4, 53 – There are various portfolios that the investor may ultimately select from. Each portfolio reflects a different combination of positions held in the financial portfolios. The various potential adjustments are discussed throughout ¶¶ 9-102; Abstract, ¶¶ 4, 51 -- Risk is taken into account; Abstract, ¶¶ 4, 7, 11, 16, 19, 22-25 – Return is taken into account; Abstract, ¶ 56 – Capital gains are taken into account); however, Bergmann does not explicitly teach that the capital gains are assessed in terms of short term capital gains, short term capital losses, long term capital gains and long term capital losses. However, Peterson discloses a tax sensitive portfolio optimization strategy that accounts for capital gains and the tax laws governing the long-term and short-term capital gains rate (Peterson: col. 14, lines 20-34). In Peterson, "the tax effect associated with capital gains or losses on security is considered only in the case where securities are sold in a taxable account" and an objective function is used to assess this tax effect (Peterson: col. 24, lines 55-63). Peterson's optimization is performed for assessing taxable and non-taxable effects on a portfolio (Peterson: abstract; col. 25, lines 1-44) in order to maximize after-tax portfolio returns for an acceptable risk tolerance (Peterson: col. 2, lines 1-10). The non-linear objective function facilitates manageable analysis of a greater number of constraints within a flexible model (Peterson: col. 25, lines 4-8, 25-35). Peterson's optimization presents a common approach to the type of tax-related,

multi-constraint portfolio optimization discussed in Bergmann (which also utilizes objective functions); therefore, the Examiner submits that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify Bergmann to specifically analyze short term capital gains, short term capital losses, long term capital gains and long term capital losses in order to facilitate manageable analysis of a greater number of constraints within a flexible model while yielding a more comprehensive understanding of the tax consequences associated with capital gains.

[Claims 26, 27, 39] Claims 26, 27, and 39 recite limitations already addressed by the rejection of claims 1, 2, and 36 above; therefore, the same rejection applies.
[Claims 35, 40] Claims 35 and 40 recite limitations already addressed by the rejection of claims 8 and 36 above; therefore, the same rejection applies.

9. Claims 5, 9, 10, 19, 25, 28, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergmann et al. (US 2002/0143682) in view of Peterson et al. (U.S. Patent No. 7,016,873), as applied to claims 1, 8, 26, and 27 above, and further in view of Schulz et al. (U.S. Patent No. 6,687,681).
[Claims 5, 9, 10, 28] Neither Bergmann nor Peterson explicitly discloses that the portfolio optimizer is further configured to minimize tracking error from the model portfolios of the at least one investment style associated with the financial portfolio, balancing tracking error, tax costs, and transaction costs; however, Schulz discloses a portfolio optimization system/method that minimizes tracking error from the model

portfolios of the at least one investment style associated with the financial portfolio, balancing tracking error, tax costs, and transaction costs (Schulz: col. 5, lines 10-57; col. 6, lines 4-30). Bergmann, Peterson, and Schulz are all directed toward portfolio optimization; therefore, the Examiner submits that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify Bergmann such that the portfolio optimizer is further configured to minimize tracking error from the model portfolios of the at least one investment style associated with the financial portfolio, balancing tracking error, tax costs, and transaction costs in order to produce more accurate portfolio optimization by taking into account errors that could affect the tax scenarios and analyses associated with the portfolio.

[Claims 19, 34] Neither Bergmann nor Peterson explicitly discloses that the portfolio optimizer is further configured to receive data relating to financial events external to the financial portfolio, and wherein the portfolio optimizer integrates the external transactions data into the optimization of the financial portfolio (claim 19) or incorporating data relating to financial events outside the financial portfolio when calculating the net tax position of the client associated with the financial portfolio (claim 34); however, Schulz discloses that the portfolio optimizer is further operative to receive data relating to financial events external to the financial portfolio, and wherein the portfolio optimizer integrates the external transactions data into the optimization of the financial portfolio (Schulz: col. 5, lines 1-14; col. 7, lines 41-57). Bergmann, Peterson, and Schulz are all directed toward portfolio optimization; therefore, the Examiner submits that it would have been obvious to one of ordinary skill in the art at the time of

Applicant's invention to modify Bergmann such that the portfolio optimizer is further configured to receive data relating to financial events external to the financial portfolio, and wherein the portfolio optimizer integrates the external transactions data into the optimization of the financial portfolio (claim 19) or incorporating data relating to financial events outside the financial portfolio when calculating the net tax position of the client associated with the financial portfolio (claim 34) in order to produce more accurate portfolio optimization by taking into account important external market data that could affect the tax scenarios and analyses associated with the portfolio.

[Claim 25] Neither Bergmann nor Peterson explicitly discloses an integration server configured to transmit calculated adjustments for a financial portfolio to an accounting system for trade execution; however, Schulz discloses such an integration server (Schulz: Fig. 3; col. 5, lines 1-62). Bergmann, Peterson, and Schulz are all directed toward portfolio optimization; therefore, the Examiner submits that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify Bergmann to include an integration server configured to transmit calculated adjustments for a financial portfolio to an accounting system for trade execution in order to provide the investor with the convenience of automatic execution of trades that would achieve the desired asset mix in the investor's portfolio.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susanna M. Diaz whose telephone number is (571) 272-6733. The examiner can normally be reached on Monday-Friday, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Abdi can be reached on (571) 272-6702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Susanna M. Diaz/
Primary Examiner, Art Unit 3692